Commonwealth of Kentucky
Division for Air Quality

PERMIT STATEMENT OF BASIS

Title V draft permit, No. V-03-034
KENTUCKY UTILITIES COMPANY - E. W. BROWN GENERATING STATION
Burgin, Kentucky 40310
January 12, 2004
Herbert R. Campbell, Reviewer
Plant I.D. 21-167-00001
Application Log # 50118/E992

SOURCE DESCRIPTION, CONTROL EQUIPMENTS & CONSTRUCTION DATE:

E. Unit 01: Unit 01: Pulverized coal-fired, dry bottom, wall-fired indirect heat exchanger unit equipped with an electrostatic precipitator and low nitrogen oxides burners; construction commenced 1957.

E. Unit 02: Unit 02: Pulverized coal-fired, dry bottom, tangentially-fired indirect heat exchanger unit equipped with an electrostatic precipitator and low nitrogen oxides burners; construction commenced 1963.

E. Unit 03: Unit 03: Pulverized coal-fired, dry bottom, tangentially-fired indirect heat exchanger unit equipped with an electrostatic precipitator and low nitrogen oxides burners; construction commenced July 19, 1971.

E. Unit 07: Unit 07: Coal receiving operations includes west track hopper operations equipped with enclosure; construction commenced 1957;
Coal conveying and handling operations includes conveyors A, C, E, F, G, and H, and transfer points, equipped with enclosure; construction commenced 1957;
Coal conveying and handling operations includes conveyors B and J, and transfer points equipped with enclosure; construction commenced 1957;
Coal stockpile operations includes stockpile equipped with measures for compaction and wet suppression; construction commenced 1957.

E. Unit 09: Unit 09: Coal receiving operations includes east track hopper operations equipped with enclosure; construction commenced October, 1993;
Coal conveying and handling operations includes conveyor A-1 and transfer points equipped with enclosure; construction commenced October, 1993.

E. Unit 13: Unit 13: Coal conveying and handling operations includes conveyors D (U13), K-1 (U-14), K (U15), and transfer points, equipped with rotoclone (conveyor D) and baghouse (conveyors K and K-1); construction commenced 1957.

E. Unit 16: Unit 16: Coal crushing and processing includes four crushers and crusher house, equipped with dust collector; construction commenced by 1957.

E. Unit 21: Unit 21: Dry fly ash handling includes dry flyash collection system, with a flyash silo, equipped with a pulse jet fabric filter dust collector; construction commenced 1982.

E. Unit 23: Unit 08: Number two fuel oil/natural gas-fired turbine for electricity generation, equipped with water injection system for nitrogen oxides emissions control; construction commenced on or before March 1, 1996.

E. Unit 24: Unit 09: Number two fuel oil/natural gas-fired turbine for electricity generation, equipped with water injection system for nitrogen oxides emissions control; construction commenced on or before November 28, 1995.

E. Unit 25: Unit 10: Number two fuel oil/natural gas-fired turbine for electricity generation, equipped with water injection system for nitrogen oxides emissions control; construction commenced on or before December 22, 1995.

E. Unit 26: Unit 11: Number two fuel oil/natural gas-fired turbine for electricity generation, equipped with water injection system for nitrogen oxides emissions control; construction commenced on or before May 8, 1996.

E. Unit 27: Unit 07: Number two fuel oil/natural gas-fired turbine for electricity generation, equipped with water injection system for nitrogen oxides emissions control; construction commenced on or before June30, 1999.

E. Unit 28: Unit 06: Number two fuel oil/natural gas-fired turbine for electricity generation, equipped with water injection system for nitrogen oxides emissions control; construction commenced on or before July 12, 1999.

E. Unit 29: Unit 05: Number two fuel oil/natural gas-fired turbine for electricity generation, equipped with water injection system for nitrogen oxides emissions control; construction commenced on or before May 28, 2001.

REGULATION APPLICABILITY:

All the applicable regulations to the emission units are listed in the permit. The following regulations are not applicable based on the applicability date of regulation, unit size, and/or definition of an affected facility per the regulation:

Regulations not applicable to Unit 1 due to applicability date or size of unit:
401 KAR 59:015, New indirect heat exchangers and 401 KAR 60:005 incorporating by reference 40 CFR 60, Subpart D, Standards of performance for fossil-fuel-fired steam generators for which construction is commenced after August 17, 1971.

401 KAR 59:016, New electric utility steam generating units and 401 KAR 60:005 incorporating by reference 40 CFR 60, Subpart Da, Standards of performance for electric utility steam generating units for which construction is commenced after September 18, 1978.

401 KAR 60:005, Standards of performance for industrial-commercial-institutional steam generating units, incorporating by reference 40 CFR 60, Subpart Db, Standards of performance for industrial-commercial-institutional steam generating units.

401 KAR 60:005, Standards of performance for small industrial-commercial-institutional steam generating units, incorporating by reference 40 CFR 60, Subpart Dc, Standards of performance for small industrial-commercial-institutional steam generating units.

Regulations not applicable to Unit 2 due to applicability date or size of unit:
401 KAR 59:015, New indirect heat exchangers and 401 KAR 60:005 incorporating by reference 40 CFR 60, Subpart D, Standards of performance for fossil-fuel-fired steam generators for which construction is commenced after August 17, 1971.

401 KAR 59:016, New electric utility steam generating units and 401 KAR 60:005 incorporating by reference 40 CFR 60, Subpart Da, Standards of performance for electric utility steam generating units for which construction is commenced after September 18, 1978.

401 KAR 60:005, Standards of performance for industrial-commercial-institutional steam generating units, incorporating by reference 40 CFR 60, Subpart Db, Standards of performance for industrial-commercial-institutional steam generating units.

401 KAR 60:005, Standards of performance for small industrial-commercial-institutional steam generating units, incorporating by reference 40 CFR 60, Subpart Dc, Standards of performance for small industrial-commercial-institutional steam generating units.

Regulations not applicable to Unit 3 due to applicability date or size of unit:
401 KAR 59:015, New indirect heat exchangers and 401 KAR 60:005 incorporating by reference 40 CFR 60, Subpart D, Standards of performance for fossil-fuel-fired steam generators for which construction is commenced after August 17, 1971.

401 KAR 59:016, New electric utility steam generating units and 401 KAR 60:005 incorporating by reference 40 CFR 60, Subpart Da, Standards of performance for electric utility steam generating units for which construction is commenced after September 18, 1978.

401 KAR 60:005, Standards of performance for industrial-commercial-institutional steam generating units, incorporating by reference 40 CFR 60, Subpart Db, Standards of performance for industrial-commercial-institutional steam generating units.

401 KAR 60:005, Standards of performance for small industrial-commercial-institutional steam generating units, incorporating by reference 40 CFR 60, Subpart Dc, Standards of performance for small industrial-commercial-institutional steam generating units.

Regulation not applicable to Unit 07 (Coal receiving operations) due to definition of affected facility and/or applicability date:
401 KAR 60:005, Standards of performance for coal preparation plants, incorporating by reference 40 CFR 60, Subpart Y.

Units 13 (coal conveying and handling), and Unit 16 (coal crushing and processing) due to applicability date:
401 KAR 60:005, Standards of performance for coal preparation plants, incorporating by reference 40 CFR 60, Subpart Y, because commenced construction before October 24, 1974.

Comments:

- The permittee must comply with the Acid Rain requirements in Section J of the permit.
- The permittee must comply with the NOx Budget requirements in Section K of the permit.
- The permittee has not proposed any alternate operating scenario for the emissions units.
- Units 1, 2, and 3 boilers have Continuous Emission Monitors (CEM) for sulfur dioxide, and opacity which may be used to assure compliance. Note that if the CEM for sulfur dioxide is down, then the permittee may assure compliance with the sulfur dioxide allowable by representative fuel sampling and ultimate analysis including fuel sulfur content.
- The permittee will be required to conduct one performance test for particulate emissions in the first six months after permit issuance for each of Units 1, 2, and 3, to demonstrate compliance with the allowable standard and to develop the indicator range/upper limit for opacity. The permittee may assure continuing compliance with the particulate standard using continuous opacity monitoring (COM) data as an indicator as described in the permit. If no other performance tests for particulates are performed, then a second performance test for each boiler will be required in the third year of the permit term.
- For Units 1, 2, 3, 13, 16, and 21 the three hour averaging time associated with the particulate standard is applicable during compliance demonstration through performance testing when testing is required by the Division.
- Unit 07 is subject to fugitive emissions 401 KAR 63:010 and is considered to be in compliance when using control measures required by the regulation.
- Unit 09, subject to 401 KAR 60:005, 40 CFR 60, Subpart Y, has the periodic monitoring requirement to inspect the control equipment weekly and instigate repairs as necessary to assure compliance. The opacity of emissions must be determined at least annually along with the inspections and necessary repairs of the control equipment.
- Proper operation of the control equipment can assure compliance with the mass particulate standard and opacity standard for units involving coal or ash handling not mentioned in the lines directly above (Units 13, 16, and 21). Proper operation of the control equipment can be assured by weekly qualitative observation of emissions. If visible emissions during visual observations are seen, the permittee shall determine the opacity where appropriate and initiate an inspection of the control equipment for any necessary repairs.
- The permittee shall submit a compliance assurance monitoring (CAM) plan for applicable emissions units with an application for significant revision or with the application for the Title V permit renewal.
- The four combustion turbines (ABB GT11N2) each rated at 1368 mmBtu/hr at emission units 04 through 07 were replaced with one combustion turbine (ABB GT11N2) rated at 1368 mmBtu/hr at emission unit 05 and with two combustion turbines (ABB GT24) rated at 1678 mmBtu/hr at emission units 06 and 07.

- In this present action this permit will supercede draft permit number V-97-046 which in a previous action was prepared in draft form, taken to public notice, but was never issued as a proposed or final Title V document.

CREDIBLE EVIDENCE:

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has not incorporated these provisions in its air quality regulations.